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ABSTRACT

Research shows that firstborn children tend to excel in academic pursuits in comparison to those born later in the family constellation. A disproportionately high number of firstborns are present at the college level, and they are also overrepresented in medical and graduate schools. Firstborns score higher than those born later on a variety of measures of ability and achievement. In school, in comparison to their younger siblings, they obtain higher grade point averages. Dimensions of the family configuration are thought to be important in explaining firstborns' generally higher achievement. However, most studies of firstborns' attainment are based on late teen or adult samples. If early familial experiences are a significant factor in the development of such differences, then birth order correlates would be anticipated at younger ages. Yet at present virtually no studies have investigated the effects of birth order on the academic achievement of students in first through sixth grades. (RH)

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THE CORRELATION BETWEEN ORDINAL POSITION - FIRST-BORN - AND ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL CHILDREN

Adrienne White-Hicks

Research on school achievement of first-borns has been generally consistent in that first-borns tend to excel in academic pursuits in comparison to later-borns in a family constellation. However, most studies of first-born's attainment are based on late teen or adult samples. If early familial experiences are a significant factor, then birth order correlates would be anticipated at younger ages. Knowledge of the influence of birth order on a student's achievement at an earlier interval of his/her educational career would help parents and educators to channel effectively positive aspects of said order and minimize the negative aspects.

The investigation of birth order has led its researchers to delve into its relationship to intelligence and achievement (educational, social, political). This article contains background on leading, yet various theorists who have stimulated research regarding birth order, specifically the first-born and how this position affects academic achievement.

Until the early 1960's, the theory of ordinal position in a family has been the subject of little research. Galton's (1874) study of prominent Englishmen related that most men of eminence were generally first-borns. The explanation for the conclusions of his study had much to do with the role of promigenture in English society - which, broadly, means the eldest son inherits the family fortune, titles, and/or power. Thus, much pressure was exerted on the eldest boy to achieve.

Adler's (1931) psychological explorations were directly related to his assumption that every human being strives to compensate for feelings of inferiority by seeking power. The position a child occupies in the family constellation influences his attitude toward life, and academic and career goals. He found the oldest's inferiority stems from being "dethroned" as the only child when a second child and, later, subsequent children are born and always feels threatened that his power is being taken away. He resolves this inner conflict by continuously striving to maintain superiority in many areas, i.e. academics.

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Some studies have demonstrated the role of parental aspirations on the achievement of first-borns. Adams and Phillips (1972) defined this effect as a need achievement - a person's drive, ambition, or motivation to succeed in competition with some standard of excellence, which they found the standard to be set by the parents. Forer (1976) found that mothers usually apply greater pressure on first-borns than they do on later children. Although generally proficient, first children later in life often feel the need to go back to Mother, or another authority, for confirmation that what they are doing is right. She found that in first-born astronauts who exemplify self-confidence, motivation, and achievement but perform best when they can check back with "Mother Earth". During flight, they perform with precision, confidence and heroism, but are always in touch with a higher authority through the radio "umbilical cord" to Mission Control in Houston.

Forer also found that the oldest child seems to identify with parental attitudes, including persistence and determination in reaching goals. Conflict often arises between parents and their first-born specifically because the child has learned these values. He may pursue self-selected goals despite a parent's opposition. Thus, first-borns have been known to lead youth gangs. Motivation in such cases could be a need to rebel against the parents or society, which often is a surrogate for the feared or disliked parents. However, first children will use methods learned in their place in the family even though they do not fit the usual concept of conformity. Usually, the first-born eventually conforms to the parents' attitudes and values. Conflicts may later result in surprising conformity in the late twenties and beyond.

Although they may encounter problems which complicate development, in general, the first-born is in the best position for motivation and achievement and, as evidenced in subsequent findings reported, first-borns appear to live up to this expectation.

Several studies have dealt with the overrepresentation of first-borns in the college population. One such study dates back to the 1920's. Bender (1928) found a preponderence of first-borns in Dartmouth at the time. More recently, Schacter (1963) and Sampson (1965) found a disproportionately high number of first-born in college populations. Altus (1965) gathered data on the birth order of students entering the University of California, Santa Barbara from 1960 to 1963. He found that more than

60% of the entering students were first-born. Of two-child families, 63% were first-born; of three-child families, 51%; of four-child families, 50%. A replication of this study was conducted by Walker and Tahmisian (1967) who confirmed the results of Altus that there is a disproportionately high number of first-borns at the college level. They are also overrepresented in medical schools, and graduate schools (Altus, 1965; Capra and Dittes, 1962; Danskin, 1964; Burger and Hall, 1964). The reasons for this, along with the eldest's need to achieve, has to do with economics. Generally the parents are economically more able to finance the eldest's college career and can also afford to lend economic support in this offspring's career choice/venture.

Another measure of achievement is performance on various achievement tests. Nichols (1964) shows that of 1,618 high school juniors who obtained exceptionally high scores on the National Merit Scholarship Qualifying Test (NMSQT), a higher percentage than expected by chance, were first-borns. Nearly 60% of these students who came from families of two to five children were first-borns. Breland (1962) studied scores of 1,817 randomly selected eleventh-grade students taking the NMSQT and the entire group of students, nationwide, (1965) who took the test. The results from both studies were the same: first-borns from small families scored the highest; first-borns from large families scored the lowest, but the lowest in the high-scoring group.

Adams and Phillips (1972) found that the scores of first-borns on both the California Test of Mental Maturity and the Metropolitan Achievement Test in both verbal and non-verbal subscores were consistently higher than later-borns of the same groups. Across various white and non-white groups (Mexicans and blacks), the scores were consistently higher. Junior high students' scores showed consistent acceleration in those of first-borns on the Iowa Test of Basic Skills and may be even more pronounced for first-borns whose family constellations demonstrated limited age spacing and for first-born girls (Crittenden, et. al., 1968).

Three hundred eighty gifted and talented students who participated in the Research and Guidance Laboratory for Superior Students at the University of Wisconsin, Madison (Lupton and Pulvino, 1978), an eleven-year study, scored significantly higher on the Terman Concept Mastery Test than did later-borns.

In all afore-mentioned studies, though first-borns scored higher than later-borns in all sub-tests, the verbal subtests reflected the greatest discrepancy between the first- and later-borns. And, in the case of the

Terman Concept Mastery Test, showed greater ability in dealing with abstract ideas at a very high level.

Grades in school constitute another measure of achievement. Schacter (1963) and Sampson (1965) found that first-borns obtain higher grade point averages than later-borns. Jones (1965) found that first-born children in a two-child family are 20% more likely to receive A's and B's than students who were second-born in such families. Students who were the oldest in families of three or more were 50% more apt to receive A's and B's than middle or younger children in the same families.

Explanations for this generally higher achievement for first-borns are quite consistent. Pfouts (1978) found that first-borns read earlier, articulate better at school-entering age, are better at tests of spacial relations, and can solve a puzzle better at age 5. Creativity of response is required in them from the beginning in order for them to cope with the complex and ambiguous adult world into which they are born, whereas the later-born is more immersed in child-level interactions, thus he is freer to respond in a more primitive world of fantasy.

Another stimulus for first-borns are younger siblings. Being asked by younger sibs for help in problem-solving enhances creativity of response (Pfouts, 1978). Possibly the most referred-to research study regarding this variable was the one done by Marcus and Zajonc (1975). Their theory - confluence model - assumed that the intellectual growth of every member and the rate of intellectual growth depends on family configuration. Random sampling of late teens from the Netherlands, France, Scotland, and the United States and results of the following testing instruments: Raven Progressive Matrices, Scholastic Aptitude Tests, National Merit Scholarship Qualifying Test, and Stanford-Binet, rendered the following conclusions: (1) Children born early in sibship perform better on intelligence tests than later children when intervals between successive births are relatively short; (2) first-born children interact predominately with adults, thus have an enriched intellectual environment for a period of psychosocial development that later-borns do not have; and, (3) first-borns have the opportunity to teach or "tutor" younger sibs, thus reinforcing learning and affording the opportunity to express themselves creatively. Marcus' and Zajonc's findings were reiterated in the study done by Bashi, Cahan, and Davis (1977) with 109, 302 Israeli, eighth-grade students of Asian-African origin with an added dimension of parents' intellectual development. The eldest child provided the intellectual environment for the later-borns because the Israeli school attendance law was passed in 1973, making at least an eighth grade education compulsory, thus the older children surpassed their parents in their ability

to educate and help younger children in the family.

The findings of many research studies of the correlation between the ordinal position - first-born - and academic achievement are quite consistent - first-borns surpass later-borns academically, as defined by scores on various achievement tests and teachers' grades in high school and college.

However, virtually no studies deal with the academic achievement of first-borns in grades one through six and whether this birth position's effects are manifested in the achievement at this educational level.

REFERENCES

Adams, R.L. and Phillip, B.N. Motivational and achievement differences among children of various ordinal birth positions. Child Development, 1972, 43, 155-164.

Adler, A. What life should mean to you. Boston: Little-Brown, 1931.

Altus, W.D. Sibling order and scholastic aptitude. American Psychologist, 1962, 17, 304.

_____.Birth order and academic promigenture. Journal of Personality and Social Psychology, 1965, 2, 872-87[illegible].

_____.Birth order and its sequelae. Science, 1966, 151, 44-49.

Anderson, M. and Kelley, M. An inquiry into traits associated with reading disability. Smith College Studies in Social Work, 1931, 2, 46-63. Cited by Otto, W. Family position and success in reading. Reading Teacher, 1965, 19, 119-123.

Bartlett, E.W. and Smith, C.P. Child-rearing practices, birth order, and the development of achievement-related motives. In Evans, E.D. (Ed.), Children: readings in behavior and development. New York: Holt, Rinehart, and Winston, 1968.

Bashi, J., Cahan, S., and Davis, D. Birth order and intellectual development: the confluence model in the light of cross-cultural evidence. Science, 1977, 196, 1470-1472.

Bayer, A.E. Birth order and attainment of the doctorate: a test of an economic hypothesis. American Journal of Sociology, 1967, 72, 540-550.

Belmont, L. and Marolla, F.A. Birth order, family size, and intelligence. Science, 1973, 182, 1096-1101.

_____, Stein, Z., and Zybert, P. Child spacing and birth order: effect on intellectual ability in two-child families. Science, 1978, 202, 995-996.

Bender, I.E. Ascendance-submission in relation to other factors in personality. Journal of Abnormal and Social Psychology, 1928, 23, 137-143.

Bierer, L.M. The meaning of birth order: first-born, last-born. Parents, 1980, 55, 52-55.

Bradley, R.W. Birth order and school-related behavior - a heuristic review. Psychological Bulletin, 1968, 70, 45-51.

References
p. 2

Breland, H.M. Birth order, family configuration, and verbal achievement. Child Development, 1974, 45, 1011-1019.

Burger, B., and Hall, E. Attitudinal structures of older and younger siblings. Journal of Individual Psychology, 1964, 20, 59-68.

Capra, P.C., and Dittes, J.E. Birth order as a selective factor among volunteer subjects. Journal of Abnormal and Social Psychology, 1962, 64, 302.

Crittenden, E., Foan, M., Smith, J. and Lweill, D. School achievement of first- and second-born siblings. Child Development, 1968, 39, 1223-1226.

Danskin, D.G. An introduction of KSU students. An unpublished report, Kansas State University, Student Counseling Center, 1964.

Dolph, E.J. A comparative study of the ordinal position of the child and his school achievement. Dissertation Abstracts, 1966, 26, 6509.

Forer, L. Birth order and life roles. Illinois: Charles C. Thomas, Publisher, 1969.

_____. The birth order factor. New York: David Mc Kay Company, Inc., 1976.

Galton, F. English men of science: their nature and nature. London: Macmillan, 1874.

Hunter, J., Wuttall, E.V. and R., and Polit, D. The effects of family size, birth order, sibling separation, and crowding on the academic achievement of boys and girls. American Educational Research Journal, 1976, 13, 217-223.

Jones, E.S. College graduates and their later success. University of Buffalo Studies, 1965, 22. Cited by Lindgren, H.C. An introduction to social psychology. New York: John Wiley and Sons, Inc., 1969.

Kammeyer, K. Birth order as a research variable. Social Forces, 1967, 46, 71-80.

Koch, H.L. The relation of primary mental abilities in five- and six-year olds to sex of child and characteristics of his sibling. Child Development, 1954, 25, 209-223.

Lindgren, H.C. An introduction to social psychology. New York: John Wiley and Sons, Inc., 1969.

References
p. 3

Lupton, P.E., and Pulvino, C.J. Superior students: family size, birth order and intellectual ability. The Gifted Child Quarterly, 1978, 21, 212-216.

Marcus, G.B., and Zajonc, R.B. Birth order and intellectual development. Psychological Review, 1975, 82, 74-88.

Mc Keithen, E.J. Patterns of motivation as related to ordinal position in the family. Unpublished doctoral dissertation, Syracuse University, 1962.

Moore, R.K. Susceptibility to hypnosis and susceptibility to social influence. Journal of Abnormal and Social Psychology, 1964, 68, 282-294.

Nichols, R.C. Birth order and intelligence. Unpublished research study, National Merit Scholarship Corporation, 1964. Cited by Altus, W.D. Birth order and its sequelae. Science, 1966, 151, 44-49.

_____. Heredity, environment, and school achievement. Measurement and Evaluation in Guidance, 1968, 1, 122-129.

Otto, W. Family position and success in reading. Reading Teacher, 1965, 19, 119-123.

Pfouts, J. Birth order, sibling IQ differences, and family relations. Paper presented at the Annual Meeting of the National Council on Family Relations, Philadelphia, Pennsylvania, October 19-22, 1973.

Rosenfeld, H. Relationships of ordinal position to affiliation and achievement motives: direction and generality. Unpublished manuscript, University of Kansas, 1966.

Sampson, E.E. Birth order, need achievement, and conformity. Journal of Abnormal Psychology, 1962, 64, 155-159.

_____. The study of ordinal position: antecedents and outcomes. Progress in experimental personality research. New York: Academic Press, 1965.

_____ and Hancock, F.T. An examination of the relationship between ordinal position, personality, and conformity. Journal of Personality and Social Psychology, 1967, 5, 398-407.

Schacter, S. The psychology of affiliation. California: Stanford University Press, 1959.

_____. Birth order, eminence, and higher education. American Sociological Review, 1963, 28, 757-767.

References
p. 4

Schoonover, S.M. The relationship of intelligence and achievement of birth order, sex of sibling, and age interval. Journal of Educational Psychology, 1959, 50, 143-146.

Tahmisian, J. and Walker, C.E. Birth order and student characteristics: a replication. Journal of Consulting Psychology, 1967, 20, 400-403.

Yahraes, H. What research shows about birth order, personality, and IQ. Science Report of Mental Health, U.S. Government Printing Office, 0-274-909, 1978, 1-10.

Zajonc, R.B. Family configuration and intelligence. Science, 1976, 192, 227-236.